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## A Preliminary List of North American Species of *Cyperus*, with Descriptions of new Forms.

BY N. L. BRITTON.

(A) Sub-genus PYCREUS, Beauv.

\* *Umbel simple or capitate, rarely slightly compound.*

† Superficial cells of the achenium oblong.

1. *Cyperus flavescens*, L. Canada to Texas throughout eastern North America; also in northern Mexico, Brazil, southern Europe, northern Africa and western Asia.

†† Superficial cells of the achenium quadrate.

2. *C. diandrus*, Torrey. Throughout eastern North America, extending westward to Arkansas and New Mexico. (Fendler, No. 869.)

Var. *castaneus*, Torrey. (*C. Elliottianus*, Rœm. and Schultes, Mant. ii., p. 100.) With the type. I cannot agree with Mr. C. B. Clarke, (Journ. Linn. Soc., xxi., p. 65) in regarding this plant as a distinct species under the name *C. rivularis*, Kunth. The varieties *eluta* and *depauperata* which he proposes (l. c.) are, in my opinion, but forms of the variable *C. diandrus*. There is still another form, characterized by elongated spikelets, which has been collected by Hunter in Lincoln Co., N. C., and by Leggett at Summit, N. J.

Var. *CAPITATUS*, n. var. Inflorescence a single capitate cluster appearing somewhat lateral; involucre of one or two elongated leaves with one or two bracts; glumes generally brown-margined. Texas and northern Mexico to California. Here I include the var. *castaneus* of Watson in Botany of California, ii., p. 214; No. 1949 of C. Wright's New Mexican Collection, and No. 49a of Dr. Palmer's Chihuahuan Collection of 1885.

3. *C. bipartitus*, Torrey. New Orleans, La., (Dr. Ingalls in Torrey Herbarium.) This appears to be distinct, but more specimens are needed to establish its relationship; it may be but a single-spiked form or variety of *C. diandrus*.

4. *C. Nuttallii*, Eddy in Spreng. Neue Entdeck., i., p. 240; Torrey. In salt meadows along the Atlantic and Gulf coasts (Curtiss, N. A. Plants, 3050.) For synonymy see Torrey, Ann. Lyc., iii., p. 252. *C. Cleaveri*, Torrey, is but a *depauperata*, single spiked form, of this species.

5. *C. Olfersianus*, Kunth. Umbel very simple, 1 to few-rayed; heads composed of few straw-colored spikelets; achenium oblong, its surface marked with quadrate cells; otherwise resembling *C. flavescens*. Plaquemines Co., La., (A. B. Langlois, 1882); Mexico, West Indies and eastern South America.

6. *C. polystachyus*, Rottb. New Orleans, (Torrey Herbarium; an old specimen.) Widely distributed in tropical regions.

Var. *leptostachyus*, Bœckl. (*C. microdontus*, and *C. Gatesii*, Torrey, *C. Texensis*, Steud.) Virginia to Florida (Curtiss, N. A. Plants, No. 3049, part), and Texas, (E. Hall, 676.)

7. *C. leucolepis*, Carey, MS., fide Clarke l. c., p. 61, (not of Bœckl.; *C. divergens*, Chapm., not of HBK.) Quincy, Florida. Related to *C. pumilus*, L., of India.

8. *C. unioides*, R. Br., var. *bromoides*, Clarke. Spikelets much larger than in any of the foregoing species, straw-colored. Cienaga, Los Angeles Co., Cal., (J. C. Oliver in Gray Herbarium); Mexico, West Indies and South America; the type in Australia.

\* \* *Umbel compound.*

9. *C. flavicomus*, Vahl, Torrey, Ann. Lyc., iii., 253, Bœckeler, not of Michaux. which, according to Mr. Clarke (l. c., p. 71), is *C. strigosus*, L. Virginia to Florida; also in Brazil.

10. *C. Hochstetteri*, Nees. (*C. flavicomus*, Torrey, Bot. Mex. Bound. Survey.) Glumes dark reddish brown; achenium broadly ellipsoidal, twice or three times the size of that of the foregoing species, which it otherwise resembles. Louisiana (Hale); Texas and New Mexico (C. Wright, No. 1965); also in tropical America, Australia, India and Africa.

(B) Sub genus JUNCCELLUS, Griseb.

11. *C. lævigatus*, L. Southern California (Brewer, Lemmon, Wright, Parish, No. 1050.) Widely distributed in tropical regions.

(C) Sub-genus EUCYPERUS, Clarke.

Section 1. *Aristati*, Kunth.

\* *Spikelets digitate.*

12. *C. amabilis*, Vahl. (*C. aureus*, *aurantiacus* and *oligostachyus*, HBK; *C. glareosus*, Liebm.) Sanoita Valley, southern Arizona, (Rothrock, No. 599, in Expl. and Surveys West of

100th Meridian, under *C. Nuttallii*); Mexico, (Dr. Palmer, No. 49b, 1885); also in the West Indies, South America, eastern India and Africa.

\* \* *Spikelets in dense terminal clusters.*

13. *C. aristatus*, Rottb. (*C. inflexus*, Muhl; *C. confertus*, Chapm., S. Flora, not of Swartz.) Throughout North America, but local. (E. Hall, Pl. Oreg., 557, and Pl. Tex., 677.) Dr. Chapman's specimens from South Florida, marked *C. confertus*, differ mainly in the reddish-brown glumes, which is the character given by Clarke (l. c., p. 92), for his forma *versicolor*. The species is widely distributed in temperate and tropical regions, not, however, occurring in Europe.

14. *C. sesleroides*, HBK. Sanoita Valley, southern Arizona, (Rothrock, No. 614, Expl. and Surveys West of 100th Meridian); also in Mexico, Hartweg, No. 256; Liebmann; Parry and Palmer, Nos. 910, 911 and 911½; Chihuahua, Dr. E. Palmer, No. 49¾, 1885, named by me *C. spectabilis*, which appears to be a totally different plant. Specimens from various other Mexican localities in the Gray Herbarium very closely resembling those here cited are determined as *C. divergens*, HBK., which nearly related, if not identical species Bœckeler and Clarke refer to *C. spectabilis*, Schreb. Following these authorities I was led into error in my determination of Dr. Palmer's plant.

Section 2. *Compressi*, Kunth.

15. *C. compressus*, L. Maryland and southward along the Atlantic and Gulf coasts to Texas (Curtiss, N. A. Plants, No. 3026; E. Hall, Pl. Tex., 682); also in ballast at Camden and Philadelphia; Mexico and Central America and in the warmer portions of Asia and Africa.

16. *C. Rusbyi*, Britton in Bull. Torr. Bot. Club, xi., p. 29. Near Silver City, New Mexico, Dr. H. H. Rusby, 1880.

17. *C. Buckleyi*, Britton. Valley of the Lower Rio Grande, (Buckley); rocky hills near Chihuahua (Pringle, Plantæ Mex., 1885, No. 311); Indian Terr. (E. Palmer, 347).

18. *C. Schweinitzii*, Torrey. Western Pennsylvania and Canada to Texas and Arizona (Lemmon, No. 2905); westward to the Pacific coast, extending north to Oregon (Geyer); also in Mexico, (Parry and Palmer, 907).

Var. *DEBILIS*, n. var. Much smaller and more slender, about 6-8 inches high; inflorescence very simple; spikelets few flowered; glumes blunt, strongly nerved. Arizona and New Mexico (C. Wright, No. 1944; Rusby, No. 430, Coll. of 1880); also in Mexico (Bourgeau, No. 529.)

19. *C. Fendlerianus*, Bœckl. Texas, Arizona and New Mexico (Fendler, No. 865; C. Wright, No. 1945; Rusby; Matthews; also Hall and Harbour, Rocky Mountain Flora, No. 584.)

Section 3. *Viscosi*, Clarke.

20. *C. viscosus*, Aiton. (*C. trachynotus*, Torrey.) Florida to New Mexico (Nos. 1943 and 704, C. Wright; No. 1515, Mex. Bound. Survey); Mexico, West Indies and northern South America.

Section 4. *Luzuloidei*, Kunth.

21. *C. Luzulae*, Rottb., var. *UMBELLULATUS*, n. var. (*C. vegetus*, Pursh, Muhlenberg, Elliott, Torrey, Chapman, &c., not of Willd.; *C. virens*, Gray, Manual, not of Michaux; *C. distinctus* and *pseudo-distinctus*, Steud.); Delaware (Canby) to Florida (E. Palmer, No. 586, 1874), and westward through the Gulf States to Texas (Lindheimer, No. 201), the Indian Territory and Arkansas. Differs from the type mainly in the compound inflorescence. Specimens received from Mr. Ravenel, collected at Aiken, S. C., closely approach the type, which occurs in Mexico, the West Indies and South America, (Mart. Herb. Flor. Brazil, No. 245.)

22. *C. virens*, Michx. North Carolina to Florida (Curtiss, N. A. Plants, No. 3062), and westward through the Gulf States to Texas (E. Hall, No. 680); also in Mexico and Guatemala, (fide Hemsley); California (vide Watson, Bot. Cal., ii., p. 214.)

23. *C. Surinamensis*, Rottb. (*C. Drummondii*, Torrey); Florida, (Curtiss, N. A. Plants, No. 3032) to Texas; in ballast grounds, Camden, N. J., (Parker); also in Mexico, the West Indies and South America.

24. *C. ochraceus*, Vahl. (*C. formosus*, Vahl (?), vide Torrey in Ann. Lyc., iii., p. 269; *C. aureus* (?), Britton in Bull. Torr. Bot. Club, xi., p. 85.) Abbeville, La. (Langlois, distributed as No. 855c); Texas (Buckley), and in the West Indies and Mexico (Botteri, Nos. 739, 740); Mex. Bound Survey, No. 1519.

25. *C. serrulatus*, Watson. Placer Co., Cal., G. R. Vasey ; Alta, Cal., Pringle ; Sacramento, M. E. Jones, Flor. Cal., 3530.

26. *C. reflexus*, Vahl. (*C. rufescens*, Torr. and Hook.) Texas, (Drummond ; E. Hall, No. 679, in part ; Wright ; Nealley.) Specimens recently received from Mr. Nealley show that the scales are not always red, and that the spikelets may be as many as 30-flowered.

27. *C. cyrtolepis*, Torr. and Hook. Texas (Drummond, Wright, Mex. Bound. Survey, No. 1520, E. Hall, 678 in part, Buckley, Reverchon) ; Camp Grant, Arizona, (Rothrock, Exp. and Surv. W. of 100th Merid., 390) ; Indian Terr., (Palmer 351.)

Var. DENTICARINATUS. (*C. rufescens*, var. *denticarinatus*, Britton in Bull. Torr. Bot. Club, xi., p. 85.) After a re-examination of Mr. Buckley's specimens from the valley of the lower Rio Grande, I am convinced that they belong rather to this species than to *C. rufescens*.

28. *C. acuminatus*, Torr. and Hook. Illinois and Tennessee to Louisiana, Kansas and Arizona ; also collected by Howell (No. 567) along the Columbia River in Oregon, and by J. W. Congdon in Tulare Co., Cal. A form of this species collected by E. Hall at Hempstead, Texas (Pl. Tex., 679), has dense heads of many spikelets.

#### Section 5. *Haspani*, Kunth.

29. *C. Haspan*, L. Virginia, North Carolina (Curtis, Canby), to Florida (Curtiss, N. A. Plants, No. 3041), and westward to Texas (E. Hall, No. 683) ; also occurring in Mexico, the West Indies, South America, Africa, Asia and Australia.

30. *C. dentatus*, Torrey. Cumberland Co., Maine (J. Blake), Rhode Island and northern New York (Leggett), to South Carolina, mainly near the Atlantic coast, but extending westward to West Virginia (Mertz.)

31. *C. Lecontei*, Torrey. Florida (Curtiss, N. A. Plants, No. 3045) to Louisiana.

#### Section 6. *Fusci*, Kunth.

32. *C. lateriflorus*, Torrey. East of Santa Cruz, Sonora, (C. Wright, No. 1950.) Not since collected. The species is nearly allied to *C. difformis*, L., of the tropical regions of the Old World, and may be the same.

33. *C. Iria*, L. Santee Canal, South Carolina (Ravenel; Curtiss, N. A. Plants, No. 3043.) According to Dr. Chapman it was probably introduced from eastern Asia, where, as elsewhere in warm-temperate countries, it is a noxious weed in rice fields.

34. *C. fuscus*, L. In ballast sand, Camden (Parker); Revere Beach, Mass. (H. A. Young, in Gray Herbarium.) Adventive.

Section 7. *Glomerati*, Clarke.

35. *C. cephalanthus*, Torr. and Hook. Texas (Drummond, 3d Coll., No. 445); Louisiana (Carpenter, Langlois.)

36. *C. spectabilis*, Schreb. Texas (Drummond, in Calcutta Herbarium, fide Clarke, l. c., p. 142.) Arizona, (Rothrock, 600 and 601, in Expl. and Surveys W. of 100th Meridian.) (See No. 14 of this List.)

37. *C. distans*, L. Eastern North Carolina (Gerald McCarthy, 1885.) The species was recorded from the same region by Pursh (Flor. Amer., Sept., i., p. 53) and its rediscovery by Mr. McCarthy confirms Pursh's statement that it grows "in wet woods, Carolina and Georgia." It is widely distributed in tropical countries.

Section 8. *Corymbosi*, Kunth.

\* *Culm jointed, leafless.*

38. *C. articulatus*, L. South Carolina and Florida (Curtiss, N. A. Plants, No. 3024) to Texas along the Gulf Coast (E. Hall, No. 703.) In all tropical regions.

Var. *conglomeratus*, Britton. Valley of the lower Rio Grande (Buckley.)

A form of this species with the spikelets greatly elongated has been collected by Mr. Nealley in Texas.

\* \* *Culms leafy.*

† Perennial by tuberiferous stolons.

39. *C. rotundus*, L. North Carolina to Florida (Curtiss, N. A. Plants, No. 3055) and Texas (E. Hall; 684); also in ballast grounds at Jersey City (Brown), Philadelphia and Camden (Parker), and at Port Eads, La., (Langlois); throughout the warmer regions of the globe. For synonymy see Clarke, l. c., p. 162.

40. *C. esculentus*, L. (*C. phymatodes*, Muhl.; *C. repens*,

Ell.) New Brunswick (Fowler) and Wisconsin to Florida (Curtiss, N. A. Plants, No. 3052) and Texas throughout eastern North America; westward to California and extending northward along the Pacific coast to Alaska (J. O. Rainer, 1871); also in Mexico, South America, southern Europe to the Cape of Good Hope, and in Australia.

Var. *macrostachyus*, Boeckl. (*C. lutescens*, Torr. and Hook, Ann. Lyc., iii., 433). Florida (Chapman), Texas (C. Wright, 1849, No. 705; Drummond, 3d Coll., No. 452), San Diego, Cal., (Orcutt, No. 1314.)

Var. *ANGUSTISPICATUS*, n. var. Spikelets narrowly linear, about one line wide and three-fourths of an inch long; a well-marked form. Kentucky (Short), Missouri (H. Eggert), Washington, D. C., (Vasey), Lexington Co., S. C., (J. Donnell Smith.)

Var. *HERMANNI*. (*C. Hermannii*, Buckley; *C. phymatodes*, var. *Hermannii*, Watson). Kern River, Cal., (Blake, in Torrey Herbarium); Bank of San Joaquin (Lemmon, Flor. Cal., 1509.)

41. *C. HALLII*, n. sp. Culm triangular, 2 to 3 feet high; leaves elongated, 2 to 3 lines wide; involucre of several leaves, one of them elongated far beyond the others and reaching a length of a foot or more; umbel more or less compound, of 5 or 6 elongated rays and several shorter ones; involucels setaceous; spikelets linear, 9 to 15-flowered, arranged in loose heads; glumes ovate, acute, strongly 7 to 9-nerved, dark reddish-brown, with lighter colored margins and apices; achenium triangular, linear. Rootstocks scaly.

Texas (E. Hall, Pl. Tex., No. 685, distributed as *C. phymatodes*, var.); valley of the lower Rio Grande (Buckley); Indian Territory (E. Palmer, No. 353).

†† Annual or perennial; roots fibrous, but stems often hard and corm-like at the base.

42. *C. strigosus*, L. (*C. Michauxianus*, Schultes, not of Torrey, fide Boeckeler; *C. flavicomus*, Michx., not of Vahl; *C. stenolepis*, Watson, Bot. Cal., not of Torrey.) Canada and Minnesota to Florida (Curtiss, N. A. Plants No. 1820, distributed as *C. stenolepis*.) and Texas, throughout eastern North America; also in California. Among the many forms of this variable species I think the following may be distinguished:



Var. *robustior*, Kunth, Enum., ii., p. 88. Spikelets large, elongated, 10 to 25-flowered. With the type.

Var. *capitatus*, Bœckl., Linnæa, xxxvi., p. 347. Inflorescence of several capitate clusters, rays short. Indiana (Dr. Clapp, 1838); St. Louis, Mo., (Engelmann); Illinois (Dr. Schneck); Massachusetts (Morong); Camden, N. J., (Martindale); Texas, (Bigelow.)

Var. COMPOSITUS, n. var. (*C. strigosus*, var. Torrey, Ann. Lyc., iii., p. 262.) Umbel compound; spikelets one-third to one-half inch long, 4 to 5-flowered. Astoria, Long Island (Leggett); Pennsylvania and New Jersey to Alabama.

Var. GRACILIS, n. var. Slender, leaves shorter than the culm, umbel of 1-3 short rays, bearing few, linear, spreading spikelets. Valley of the Lower Rio Grande (Buckley); Fayetteville, Ark., (Harvey.)

Var. ELONGATUS. (*C. Michauxianus*, var. (?) *elongatus*, Torrey, Ann. Lyc., iii., p. 432 (?). Rays much elongated, bearing single, capitate clusters. North Carolina (Curtis, in Torrey Herb.) The originals of Dr. Torrey's variety were collected by Drummond in Texas, but there are no specimens from there in his herbarium, and I have no means of knowing if they are the same as the one from North Carolina on which the present variety is based.

43. *C. stenolepis*, Torrey. North Carolina to Florida and Texas.

44. *C. setigerus*, Torr. and Hook. (Including *C. lutescens*, Torrey, Bot. Mex. Bound. Survey, p. 227, and Herbarium.) Texas and New Mexico (C. Wright, No. 705; Buckley; Bigelow, and Herb. Berland. Texano-Mexicanum, Nos. 2410 and 980.) I can see no reason for keeping the two species separate, and Dr. Torrey states (l. c.) that his *C. lutescens* is probably too close to *C. setigerus*.

45. *C. sphacelatus*, Rottb. Southern Nevada (Lieut. Wheeler, 1871, in Gray Herbarium); Cal. (Parish); ballast, Mobile, Ala., (Mohr.); the specimens almost exactly match the others from St. Thomas, W. I. (Eggers), and No. 636, Sagot, Guyane Francaise. Resembles the last, but the glumes are brown-margined.

46. *C. refractus*, Engelm. (Bœckeler, in Linnæa, xxxvi., p. 369; see also Vasey, in Bull. Torr. Bot. Club, x., p. 32.) Trenton, N. J., to North Carolina and Missouri. Appears to me nearest allied to *C. strigosus*, but is also related to *C. Lancastricensis*, Porter.

47. *C. filiformis*, Swartz. Southern Florida; also in the West Indies. The Florida specimens do not quite agree with *C. Wright's* from Cuba.

48. *C. brunneus*, Swartz. (*C. purpurascens*, Vahl; *C. ligularis*, Chapm., S. Flora, p. 507, not of L. nor of Chapm. Suppl., p. 659.) Southern Florida (Curtiss, N. A. Plants, No. 3025\*), and in the West Indies.

49. *C. tetragonus*, Ell. North Carolina and Florida (Curtiss, No. 3059) to Texas; also in Mexico (fide Hemsley.)

50. *C. dissitiflorus*, Torrey. Florida to Louisiana and Texas. (E. Hall, Plantæ Texanæ, No. 690, distributed as *C. litos*, Schultes); also in Mexico and Brazil (fide Bœckeler.)

Section 9. *Papyri*, Kunth.

51. *C. giganteus*, Vahl. (*C. erythrorhizos*, Muhl., var. *erectus*, Britton, in Bull. Torr. Bot. Club, xi., p. 85; *C. densiflorus*, Meyer.) Texas and Mexico (Herb. Berland. Texano-Mexicanum, Nos. 876, 3223 and 2306; Buckley; Nealley.) Cuba (*C. Wright*, No. 1529.)

52. *C. erythrorhizos*, Muhl. Lawrence, Mass., (Robinson); Hartford, Conn., (fide Bishop, Cat. Plants Conn., p. 17); eastern Long Island (E. S. Miller); Camden, N. J., (Martindale), and southward to Florida and New Mexico; also in California.

Var. *pumilus*, Engelm. (*C. occidentalis*, Torrey.) Missouri to California, extending northward to Oregon (E. Hall, Pl. Oreg., No. 558), and Washington (Suksdorf, 221.)

53. *C. HALEI*, Torrey, ined., in letter to Mr. Charles Mohr, 1868, who has kindly furnished me with the following description:

Umbels many-rayed, shorter than the involucre bracts; spikes cylindrical, one-half to three-fourths inch long, sessile or stalked, forming dense clusters with a few linear, acuminate involucre; spikelets flat, 12 to 14-flowered; scales with scarious margins, brown, sharply carinate on the back, indistinctly

5-nerved, blunt, mucronulate, somewhat appressed; stem 2 to 3 feet high, obtusely triangular, tumid at the base; leaves as long as the stem, broadly linear, very rough on the edges; achenium small, triquetous. Marshes and borders of lakes in the Red River Valley, Repides, La., (Hale); eastern Florida (Leavenworth); Carrabelle, Florida.

(D) Sub-genus DICLIDIUM, Nees.

54. *C. speciosus*, Vahl; Torrey in part. (*C. Michauxianus*, Torrey, not of Schultes.) New England to Wisconsin, and southward to Florida (Curtiss, N. A. Plants, No. 3048) and Texas (C. Wright, 1849, No. 706); also in California.

Var. *SQUARROSUS*, n. var. (*C. ferruginescens*, Bœckl.) Scales spreading or recurved, reddish. New Mexico (Fendler, No. 870); St. Louis, Mo., (Engelmann); Texas (Buckley.)

Var. *PARVUS*, n. var. (*C. parvus*, Bœckl.) Low, 1 to 3 inches high; umbel very simple, generally of a single cluster of short terete spikelets. Cited by Bœckeler as collected by Dr. Engelmann at St. Louis, and Drummond's Collection, No. 34; No. 1946, C. Wright, New Mexico, answers Bœckeler's description.

55. *C. ferax*, Richard. (*C. flexuosus*, Vahl; *C. pennatus*, Bœckl., not Lam.) Missouri (F. Bush); Texas (Bigelow, Buckley); Arizona (Pringle); California (Parish, 1064); West Indies and widely distributed in tropical regions. For synonymy see Clarke, Journ. Linn. Soc., xx., p. 295.

56. *C. Engelmannii*, Steud. Massachusetts (Morong) to Wisconsin and southward, but not often collected.

57. *C. oxycarioides*, Britton, in Bull. Torr. Bot. Club, xi., p. 86. Valley of the lower Rio Grande (Buckley.)

(E) Sub-genus MARISCUS, Vahl.

\* *Umbel simple or capitate.*

† Spikelets few (2 to 6), flowered.

58. *C. ovularis*, Torrey. Southern New York to Illinois and southward; westward to Arkansas and Texas.

Var. *robustus*, Bœckl. Heads larger, 6 to 8 lines in diameter, on longer rays; spikelets 3 to 6-flowered. (*C. Wolfii*, Wood, in Bull. Torr. Bot. Club, vi., p. 72.) Illinois (Bebb; J. Wolf);

Arkansas (Harvey); Indian Territory (G. D. Butler); Louisiana (Langlois).

Var. *sphaericus*, Boeckl. Heads smaller than in the type, very dense; spikelets more subulate, reddish brown. Arkansas (Dr. Pitcher); Indian Territory (Dr. Palmer, No. 348); Texas (Wright) and Herb. Berland. Tex. Mex., Nos. 314, 1568 and 1574.)

59. C. TORREYI. (*Mariscus cylindricus*, Ell.; *C. ovularis*, var. *cylindricus*, Torrey; *C. cylindricus*, Britton, l. c. vii., p. 48, Plate III., not of Chapman.) Long Island (Leggett) to Florida (Curtiss, N. A. Plants, No. 3051), and westward to Texas (Palmer, Flor. S. W. Texas, No. 2017.)

60. *C. retrorsus*, Chapm. in Bot. Gazette, iii., p. 17; *C. retroversus*, Chapm., Suppl., p. 659; *M. alternifolius*, Vahl.) Robert's Key, Caximbas Bay, southern Florida (Chapman); also in Mauritius.

61. *C. retrofractus*, Gray. Southern New Jersey to Florida (Curtiss, No. 3053), and Texas (E. Hall, Plantæ Texanæ, No. 691.)

62. *C. flavomariscus*, Griseb., Flor. Brit. W. I., p. 567. (*Mariscus flavus*, Vahl; *C. flavus*, Boeckl.) Valley of the lower Rio Grande (Buckley); Monterey, Cal. (?), vide Watson, Bot. Cal., ii., p. 216; in ballast at Philadelphia and Camden (Parker, Burk); also in Mexico, the West Indies and South America.

Var. PEDUNCULARIS, n. var. Rays of the umbel elongated, with setaceous involucels. Chihuahua (Dr. E. Palmer, No. 49, 1885; Mandon, Plantæ Andium Bolivensium, No. 1398.)

63. *C. cylindricus*, Chapm., not of Britton. Colier's Key, Marco Pass, South Florida (Chapman.)

64. *C. uniflorus*, Torr. and Hook. Texas (Drummond, Wright, E. Hall, No. 686, Reverchon, Nealley.)

Var. *pumilus*, Britton. Indian Territory (Dr. Palmer, No. 350); valley of the lower Rio Grande (Buckley.)

65. C. WRIGHTII, n. sp. Culm slender, triangular, 12 to 15 inches high; leaves of the culm few, narrowly linear; root leaves not seen; involucre of one elongated leaf, and 2 to 4 shorter ones; umbel simple, of 1 to 3 short rays; inflorescence of 1 to

3 dense ovate heads, about half an inch long; spikelets lanceolate, 4 to 5-flowered; glumes lanceolate, acute; achenium ovoid, triangular.

New Mexico (C. Wright, No. 1947); Mexico (F. Müller, without a number).

†† Spikelets several (4 to 12) flowered.

66. *C. filiculmis*, Vahl. Northumberland Co., Canada (Macoun), to Wisconsin and southward to Florida (Curtiss, No. 3036) and Texas. Varies into very slender forms with small, single heads.

67. *C. Grayii*, Torrey. (*C. setifolius*, Torrey MS., and Clarke, l. c., xxi., p. 198.) Sandy plains along the Atlantic coast, Massachusetts to Florida. *C. ovularis*, var. *tenellus*, Torrey, Ann. Lyc., iii., p. 279, is a young form of this.

68. *C. Baldwinii*, Torrey. North Carolina and Florida, (Curtiss, No. 3025) westward to Texas (E. Hall, No. 687; E. Palmer (Flor. S. W. Texas, No. 1332); also in ballast at Camden (Parker.)

69. *C. Lancastriensis*, Porter. Trenton, N. J.; Safe Harbor, Penn., (Porter) to Alabama.

70. *C. fuliginеus*, Chapm. Key West (Chapman; Garber.)

\* \* *Umbel compound.*

71. *C. Californicus*, Watson. (*C. speciosus*, Torrey, Bot. Mex. Bound. Survey.) California (Fitch, in Torrey Herb.)

72. *C. Pringlei*, Britton. Catalina Mountains, southern Arizona (Pringle.)

73. *C. ligularis*, L. (Not of Chapm., S. Flora, p. 507.) Southern Florida (Palmer, 1874, No. 532; Curtiss, N. A. Plants, No. 3046); also in Mexico, the West Indies, South America and tropical Africa and Australia.

### Some Californian Polypetalæ.

BY E. L. GREENE.

DENDROMECON FLEXILE.—Six to ten feet high, tree-like, with numerous more or less drooping branches; leaves ovate-oblong to elliptical, obtuse, often mucronulate, 2 to 5 inches long, fleshy and glaucous, crowded on the branches, short-petio-